

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 January 2004 (22.01.2004)

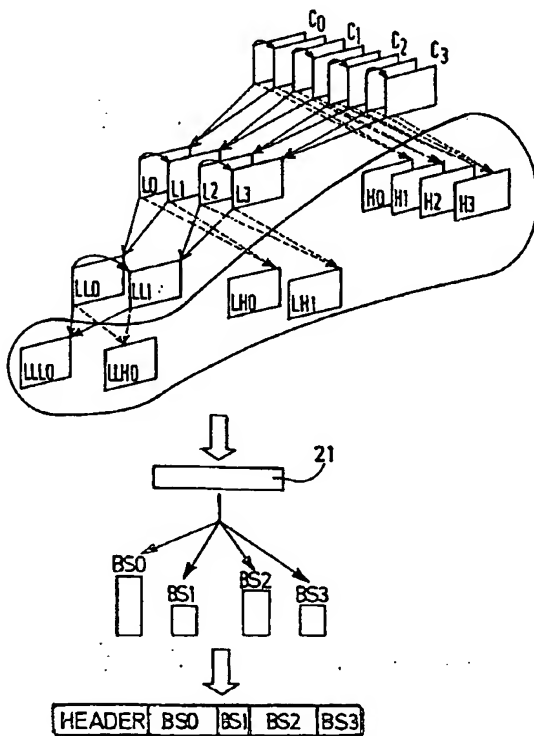
PCT

(10) International Publication Number
WO 2004/008771 A1

- (51) International Patent Classification⁷: **H04N 7/26** (74) Agent: LANDOUSY, Christian; Société Civile SPID, 156 Boulevard Haussmann, F-75008 Paris (FR).
- (21) International Application Number: PCT/IB2003/003159 (81) Designated States (*national*): AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 11 July 2003 (11.07.2003) (25) Filing Language: English (26) Publication Language: English
- (30) Priority Data: 02291803.1 17 July 2002 (17.07.2002) EP (71) Applicant (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 5621 BA Eindhoven (NL).
- (72) Inventors; and (75) Inventors/Applicants (*for US only*): BOURGE, Arnaud [FR/FR]; 156 Boulevard Haussmann, F-75008 Paris (FR). BARRAU, Eric [FR/FR]; 156 Boulevard Haussmann, F-75008 Paris (FR). BENETIERE, Marion [FR/FR]; 156 Boulevard Haussmann, F-75008 Paris (FR).
- Published:
— with international search report

[Continued on next page]

(54) Title: 3D WAVELET VIDEO CODING AND DECODING METHOD AND CORRESPONDING DEVICE



(57) Abstract: The invention relates to a three-dimensional (3D) video coding method applied to a bitstream corresponding to an original video sequence that has been divided into successive groups of frames (GOFs). This coding method, applies to each successive GOF first a spatio-temporal analysis step, itself comprising a motion estimation sub-step, a motion compensated temporal filtering sub-step and a spatial analysis sub-step, and then an encoding step, itself comprising an entropy coding sub-step, performed on the low and high frequency temporal subbands resulting from the spatio-temporal analysis step and on motion vectors obtained by means of said motion estimation step, and an arithmetic coding sub-step, applied to the coded sequence thus obtained. According to the invention, the frequency subbands available at the end of the analysis step are coded in an order that corresponds to a reconstruction of the couples of frames in their original order, the bits necessary to decode the first couple being at the beginning of the coded bitstream, followed by the extra bits necessary to decode the second couple, and so on, up to the last couple.

WO 2004/008771 A1